Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1-14. (Canceled)

15. (Previously presented) A method of manufacturing a semiconductor device comprising the steps of:

forming a first amorphous semiconductor film comprising_silicon and germanium on an insulating surface wherein a concentration of the germanium is within a range of 0.1 atom% to 10 atom%;

forming a second amorphous semiconductor film comprising silicon on the first amorphous semiconductor film;

providing a metal element in contact with the first amorphous semiconductor film or the second amorphous semiconductor film;

crystallizing each of the first and second amorphous semiconductor films by heating to form a first crystalline semiconductor film and a second crystalline semiconductor film, respectively;

forming a semiconductor film containing a rare gas element over the second crystalline semiconductor film;

performing a heat treatment in a nitrogen atmosphere to remove or reduce the concentration of the metal element in the second crystalline semiconductor film, after forming the semiconductor film containing the rare gas element; and

forming a gate insulating film on the second crystalline semiconductor film after crystallizing each of the first and second amorphous semiconductor films.

16. (Previously presented) A method of manufacturing a semiconductor device comprising the steps of:

forming a first amorphous semiconductor film comprising silicon and an element having a larger atomic radius than silicon on an insulating surface wherein a concentration of said element is within a range of 0.1 atom% to 10 atom%;

forming a second amorphous semiconductor film comprising silicon on the first amorphous semiconductor film;

providing a metal element in contact with the first amorphous semiconductor film or the second amorphous semiconductor film;

crystallizing each of the first and second amorphous semiconductor films by heating to form a first crystalline semiconductor film and a second crystalline semiconductor film, respectively;

forming a semiconductor film containing a rare gas element over the second crystalline semiconductor film;

performing a heat treatment in a nitrogen atmosphere to remove or reduce the concentration of the metal element in the second crystalline semiconductor film, after forming the semiconductor film containing the rare gas element; and

forming a gate insulating film on the second crystalline semiconductor film after crystallizing each of the first and second amorphous semiconductor films.

17. (Previously Presented) A method according to claim 15, further comprising the step of:

irradiating with a laser light to obtain a higher crystallinity of each of the first and second crystalline semiconductor films after the crystallizing step.

18. (Previously Presented) A method according to claim 15, further comprising the step of:

irradiating with a light from one selected from the group consisting of a halogen lamp, a xenon lamp, a mercury lamp, a metal halide lamp as a light source to obtain a higher crystallinity of each of the first and second crystalline semiconductor films after the crystallizing step.

19. (Previously Presented) A method according to claim 15,

wherein each of the first and second semiconductor films is formed by a plasma CVD method.

20-28. (Canceled)

29. (Previously Presented) A method according to claim 16, further comprising the step of:

irradiating with a laser light to obtain a higher crystallinity of each of the first and second crystalline semiconductor films after the crystallizing step.

30. (Previously Presented) A method according to claim 16, further comprising the step of:

irradiating with a light from one selected from the group consisting of a halogen lamp, a xenon lamp, a mercury lamp, a metal halide lamp as a light source to obtain a higher crystallinity of each of the first and second crystalline semiconductor films after the crystallizing step.

31. (Previously Presented) A method according to claim 16,

wherein each of the first and second semiconductor films is formed by a plasma CVD method.

32-34. (Canceled)

35. (Previously presented) A method of manufacturing a semiconductor device comprising the steps of:

forming a first amorphous semiconductor film comprising silicon and germanium on an insulating surface wherein a concentration of the germanium is within a range of 0.1 atom% to 10 atom%;

forming a second amorphous semiconductor film comprising silicon on the first amorphous semiconductor film;

providing a metal element in contact with the first amorphous semiconductor film or the second amorphous semiconductor film;

crystallizing each of the first and second amorphous semiconductor films by irradiating with a laser light;

forming a semiconductor film containing a rare gas element over the second crystalline semiconductor film;

performing a heat treatment in a nitrogen atmosphere to remove or reduce the concentration of the metal element in the second crystalline semiconductor film, after forming the semiconductor film containing the rare gas element; and

forming a gate insulating film on the crystallized second amorphous semiconductor film after crystallizing each of the first and second amorphous semiconductor films.

36. (Previously presented) A method of manufacturing a semiconductor device comprising the steps of:

forming at least an electrode on an insulating surface;

forming a gate insulating film covering the electrode;

forming a first amorphous semiconductor film comprising silicon and germanium on the gate insulating film wherein a concentration of the germanium is within a range of 0.1 atom% to 10 atom%;

forming a second amorphous semiconductor film comprising silicon on the first amorphous semiconductor film;

providing a metal element in contact with the first amorphous semiconductor film or the second amorphous semiconductor film;

crystallizing each of the first and second amorphous semiconductor films by irradiating with a laser light;

forming a semiconductor film containing a rare gas element over the second crystalline semiconductor film;

performing a heat treatment in a nitrogen atmosphere to remove or reduce the concentration of the metal element in the second crystalline semiconductor film, after forming the semiconductor film containing the rare gas element; and

forming an interlayer insulating film on the crystallized second amorphous semiconductor film after crystallizing each of the first and second amorphous semiconductor films.

37-38. (Cancelled)

39. (Previously presented) A method of manufacturing a semiconductor device comprising the steps of:

forming a first amorphous semiconductor film comprising silicon and germanium on an insulating surface wherein a concentration of the germanium is within a range of 0.1 atom% to 10 atom%;

forming a second amorphous semiconductor film comprising silicon on the first amorphous semiconductor film;

providing a metal element in contact with the first amorphous semiconductor film or the second amorphous semiconductor film;

crystallizing each of the first and second amorphous semiconductor films by irradiating with an excimer laser light;

forming a semiconductor film containing a rare gas element over the second crystalline semiconductor film;

performing a heat treatment in a nitrogen atmosphere to remove or reduce the concentration of the metal element in the second crystalline semiconductor film, after forming the semiconductor film containing the rare gas element; and

forming a gate insulating film on the crystallized second amorphous semiconductor film after crystallizing each of the first and second amorphous semiconductor films.

40. (Currently Amended) A method of manufacturing a semiconductor device comprising the steps of:

forming at least an electrode on an insulating surface;

forming a gate insulating film covering the electrode;

forming a first amorphous semiconductor film comprising silicon and germanium on the gate insulating film wherein a concentration of the germanium is within a range of 0.1 atom% to 10 atom%;

forming a second amorphous semiconductor film comprising silicon on the first amorphous semiconductor film;

providing a metal element in contact with the first amorphous semiconductor film or the second amorphous semiconductor film;

crystallizing each of the first and second amorphous semiconductor films by irradiating with [[a]] <u>an excimer</u> laser light;

forming a semiconductor film containing a rare gas element over the second crystalline semiconductor film;

performing a heat treatment in a nitrogen atmosphere to remove or reduce the concentration of the metal element in the second crystalline semiconductor film, after forming the semiconductor film containing the rare gas element; and

forming an interlayer insulating film on the crystallized second amorphous semiconductor film after crystallizing each of the first and second amorphous semiconductor films.

41. (Previously Presented) A method according to claim 39, further comprising the step of:

irradiating with a laser light to obtain a higher crystallinity of each of the first and second crystalline semiconductor films after the crystallizing step.

42. (Previously Presented) A method according to claim 39, further comprising the step of:

irradiating with a light from one selected from the group consisting of a halogen lamp, a xenon lamp, a mercury lamp, a metal halide lamp as a light source to obtain a higher crystallinity of each of the first and second crystalline semiconductor films after the crystallizing step.

43. (Previously Presented) A method according to claim 39,

wherein each of the first and second semiconductor films is formed by a plasma CVD method.

44. (Previously Presented) A method according to claim 40, further comprising the step of:

irradiating with a laser light to obtain a higher crystallinity each of the first and second crystalline semiconductor films after the crystallizing step.

45. (Previously Presented) A method according to claim 40, further comprising the step of:

irradiating with a light from one selected from the group consisting of a halogen lamp, a xenon lamp, a mercury lamp, a metal halide lamp as a light source to obtain a higher crystallinity of each of the first and second crystalline semiconductor films after the crystallizing step.

46. (Previously Presented) A method according to claim 40,

wherein each of the first and second semiconductor films is formed by a plasma CVD method.

47-48. (Canceled)

49. (Previously Presented) A method according to claim 15 further comprising the step of patterning the first amorphous semiconductor film and the second amorphous semiconductor

film before crystallizing each of the first amorphous semiconductor film and the second amorphous semiconductor film.

50. (Previously Presented) A method according to claim 16 further comprising the step of patterning the first amorphous semiconductor film and the second amorphous semiconductor film before crystallizing each of the first amorphous semiconductor film and the second amorphous semiconductor film.

51. (Previously Presented) A method according to claim 35 further comprising the step of patterning the first amorphous semiconductor film and the second amorphous semiconductor film before crystallizing each of the first amorphous semiconductor film and the second amorphous semiconductor film.

52. (Previously Presented) A method according to claim 36 further comprising the step of patterning the first amorphous semiconductor film and the second amorphous semiconductor film before crystallizing each of the first amorphous semiconductor film and the second amorphous semiconductor film.

53. (Previously Presented) A method according to claim 39 further comprising the step of patterning the first amorphous semiconductor film and the second amorphous semiconductor film before crystallizing each of the first amorphous semiconductor film and the second amorphous semiconductor film.

54. (Previously Presented) A method according to claim 40 further comprising the step of patterning the first amorphous semiconductor film and the second amorphous semiconductor film before crystallizing each of the first amorphous semiconductor film and the second amorphous semiconductor film.

55-56. (Canceled)

57. (Previously Presented) A method according to claim 15,

wherein a concentration of oxygen, nitrogen and carbon in the first and second amorphous semiconductor films are less than $1x10^{19}/cm^3$.

58. (Previously Presented) A method according to claim 16,

wherein a concentration of oxygen, nitrogen and carbon in the first and second amorphous semiconductor films are less than $1x10^{19}/cm^3$.

59. (Previously Presented) A method according to claim 35,

wherein a concentration of oxygen, nitrogen and carbon in the first and second amorphous semiconductor films are less than $1x10^{19}/cm^3$.

60. (Previously Presented) A method according to claim 36,

wherein a concentration of oxygen, nitrogen and carbon in the first and second amorphous semiconductor films are less than $1x10^{19}/cm^3$.

61. (Previously Presented) A method according to claim 39,

wherein a concentration of oxygen, nitrogen and carbon in the first and second amorphous semiconductor films are less than $1x10^{19}/cm^3$.

62. (Previously Presented) A method according to claim 40,

wherein a concentration of oxygen, nitrogen and carbon in the first and second amorphous semiconductor films are less than $1x10^{19}/cm^3$.

63. (Previously Presented) A method according to claim 15,

wherein the metal element is at least one selected from the group consisting of Fe, Ni, Co, Ru, Rh, Pd, Os, Ir, Pt, Cu and Au.

64. (Previously Presented) A method according to claim 16,

wherein the metal element is at least one selected from the group consisting of Fe, Ni, Co, Ru, Rh, Pd, Os, Ir, Pt, Cu and Au.

65. (Previously Presented) A method according to claim 35,

wherein the metal element is at least one selected from the group consisting of Fe, Ni, Co, Ru, Rh, Pd, Os, Ir, Pt, Cu and Au.

66. (Previously Presented) A method according to claim 36,

wherein the metal element is at least one selected from the group consisting of Fe, Ni, Co, Ru, Rh, Pd, Os, Ir, Pt, Cu and Au.

67. (Previously Presented) A method according to claim 39,

wherein the metal element is at least one selected from the group consisting of Fe, Ni, Co, Ru, Rh, Pd, Os, Ir, Pt, Cu and Au.

68. (Previously Presented) A method according to claim 40,

wherein the metal element is at least one selected from the group consisting of Fe, Ni, Co, Ru, Rh, Pd, Os, Ir, Pt, Cu and Au.

69-70. (Canceled)

71. (Previously Presented) A method according to claim 15,

wherein the first amorphous semiconductor film is thinner than the second semiconductor film.

72. (Previously Presented) A method according to claim 16,

wherein the first amorphous semiconductor film is thinner than the second semiconductor film.

73. (Previously Presented) A method according to claim 35,

wherein the first amorphous semiconductor film is thinner than the second semiconductor film.

74. (Previously Presented) A method according to claim 36,

wherein the first amorphous semiconductor film is thinner than the second semiconductor film.

75. (Previously Presented) A method according to claim 39,

wherein the first amorphous semiconductor film is thinner than the second semiconductor film.

76. (Previously Presented) A method according to claim 40,

wherein the first amorphous semiconductor film is thinner than the second semiconductor film.

77-94. (Canceled)

95. (Previously Presented) A method according to claim 15, wherein the second amorphous semiconductor film is formed so that a combined thickness of the first and second amorphous semiconductor films is within a range of 20-100 nm.

96. (Previously Presented) A method according to claim 16, wherein the second amorphous semiconductor film is formed so that a combined thickness of the first and second amorphous semiconductor films is within a range of 20-100 nm.

97. (Previously Presented) A method according to claim 35, wherein the second amorphous semiconductor film is formed so that a combined thickness of the first and second amorphous semiconductor films is within a range of 20-100 nm.

98. (Previously Presented) A method according to claim 36, wherein the second amorphous semiconductor film is formed so that a combined thickness of the first and second amorphous semiconductor films is within a range of 20-100 nm.

99. (Previously Presented) A method according to claim 39, wherein the second amorphous semiconductor film is formed so that a combined thickness of the first and second amorphous semiconductor films is within a range of 20-100 nm.

100. (Previously Presented) A method according to claim 40, wherein the second amorphous semiconductor film is formed so that a combined thickness of the first and second amorphous semiconductor films is within a range of 20-100 nm.